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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/407,581	09/28/1999	FREDERIC ZENHAUSERN	4467-103US	2941

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EXAMINER

TSAI, CAROL S W

ART UNIT PAPER NUMBER

2857

DATE MAILED: 03/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)	
09/407,581	ZENHAUSERN, FREDERIC	
Examiner	Art Unit	
Carol S Tsai	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 24 January 2002.
- 2a) This action is FINAL.
- 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-13, 15-19 and 43 is/are pending in the application.
 - 4a) Of the above claim(s) 14 and 20-42 is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-13, 15-19 and 43 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) Interview Summary (PTO-413) Paper No(s) _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other:

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DETAILED ACTION

1. Applicant's election with traverse of Group I, claims 1-23, 15-19 and 43, ~~3~~ in Paper No. 3 is acknowledged. The traversal is on the ground(s) that since a search of the composition would uncover the species of Groups II, III, and IV; therefore, Applicant requests to file a divisional application directed to the unelected claims. This is found persuasive and the Examiner agrees with Applicant.

2. Claims 14 and 20-42 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 3.

Claim Rejections - 35 USC § 112

3. Claims 6, 7, 11, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. In claim 6, it is not understandable what is meant by "human paneling".

5. In claim 7, it is not clear what is meant by "A method according to claim 1 wherein a near-field probe", since the element of "a near-field probe" is not included in claim 1.

6. In claim 11, it is not understandable what is meant by "wherein at least one member of the group consisting of heat, electromagnetic radiation, electricity, magnetism, and mechanical vibration at least assists in transferring the analyte from the material to a gaseous or vaporized form."

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7. In claim 15, it is not clear what is meant by “wherein a part is a circuit board or a multichip module”, since the element of “a part” is not included in claim 1.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-5, 8, 11, 12, 15, 16, and 43, as best understood, are rejected under 35

U.S.C. 102(b) as being anticipated by U. S. Patent No. 5,469,369 to Rose-Pehrsson et al.

Rose-Pehrsson et al. disclose a method for monitoring an electronic device, comprising the steps of: measuring an analyte of a material in the electronic device and detecting more than one chemical property of the analyte (see col. 8, line 51 to col. 9, line 23); combining the detected properties to produce a signal output (see col. 15, lines 40-50 and col. 17, lines 42-52); processing the signal output with multivariate analysis to convert the signal output into information representative of a quality of the material (see col. 13, line 29 to col. 14, line 31).

As to claim 2, Rose-Pehrsson et al. also disclose the multivariate analysis comprising processing the signal output with a pattern recognition algorithm sufficient to classify, compare, or discriminate the material based on the quality, quantity, and performance (see col. 13, line 28 to col. 14, line 31).

As to claim 3, Rose-Pehrsson et al. also disclose the multivariate analysis using unsupervised statistical pattern recognition (see col. 19, lines 2-7).

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As to claim 4, Rose-Pehrsson et al. also disclose multivariate analysis using supervised statistical pattern recognition (see col. 15, lines 13-16).

As to claim 5, Rose-Pehrsson et al. also disclose the analysis being a pattern recognition (see col. 13, lines 29-59).

As to claim 8, Rose-Pehrsson et al. also disclose the analyte being a gas or a vapor (see col. 8, lines 51-67).

As to claim 11, Rose-Pehrsson et al. also disclose electricity assisting in transferring the analyte from the material to a gaseous or vaporized form (see col. 4, lines 59-66).

As to claim 12, Rose-Pehrsson et al. also disclose a surface acoustic wave gas sensing device (see col. 8, lines 35-50).

As to claim 15, Rose-Pehrsson et al. also disclose a circuit board (see col. 12, lines 9-11).

As to claim 16, Rose-Pehrsson et al. also disclose the contaminant being organics (see col. 9, lines 34-47).

As to claim 43, Rose-Pehrsson et al. also disclose an apparatus for probing at least the quality of a material used in electronics or optics, comprising: a multivariate detector (sensor array 14 shown on Fig. 1) having at one of a sensing probe sensing physicochemical property, the multivariate detector capable of detecting an analyte of the material (see col. 13, line 28 to col. 14, line 31 and col. 18, lines 1-45); transmission means (transducer 42 shown on Fig. 4), capable of transmitting a signal between the multivariate detector and a data acquisition system (sampling system 12 shown on Fig. 1), capable of converting the signal into raw data; a computational device (microcontroller 22 shown on Fig. 1) capable of processing at least part of

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the raw data using multivariate analysis to create a data set; and an output device (display 56 shown on Fig. 1) capable of displaying the data set.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claim 6, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Rose-Pehrsson et al. in view of U. S. Patent No. 5,911,872 to Lewis et al.

As noted above, Rose-Pehrsson et al. disclose the claimed invention, except for the quality analysis comprising sensory evaluation of the sample materials by human paneling.

Lewis et al. teach the quality analysis comprising sensory evaluation of the sample materials by human paneling (see Figs 6A and 6B and col. 17, line 64 to col. 18, line 9).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rose-Pehrsson et al.'s method to include the quality analysis comprising sensory evaluation of the sample materials by human paneling, as taught by Lewis et al., in order that users can easily analyze and evaluate the data sample via a visual display.

12. Claims 7, 10, and 13, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Rose-Pehrsson et al. in view of U. S. Patent No. 5,244,813 to Walt et al.

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As noted above, Rose-Pehrsson et al. disclose the claimed invention, except for a near-field probe in which a coated optical fiber is used for measuring the analyte.

Walt et al. teach a near-field probe in which a coated optical fiber is used for measuring the analyte (see Abstract, lines 1-4 and col. 10, lines 17-10).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rose-Pehrsson et al.'s method to include a near-field probe in which a coated optical fiber is used for measuring the analyte, as taught by Walt et al., in order to provide practical results in a matter of minutes or seconds and thus provide immediate data (see Walt et al. col. 9, lines 26-28).

As to claim 10, Rose-Pehrsson et al. do not disclose collecting gases by a static headspace technique.

Walt et al. teach collecting gases by a static headspace technique (see col. 22, lines 38-44).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rose-Pehrsson et al.'s method to include collecting gases by a static headspace technique, as taught by Walt et al., in order that all measurements being of the headspace above the aqueous phase (see Walt et al. col. 22, lines 44-45).

As to claim 13, Rose-Pehrsson et al. do not disclose a metal oxide semiconductor gas sensing device.

Walt et al. teach a metal oxide semiconductor gas sensing device (see col. 9, lines 37-42).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rose-Pehrsson et al.'s method to include a metal oxide

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semiconductor gas sensing device, as taught by Walt et al., in order that only several hundred parts per million vapor volume concentration can be detected (see Walt et al. col. 9, lines 41-42).

13. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rose-Pehrsson et al. in view of U. S. Patent No. 5,552,272 to Bogart.

As noted above, Rose-Pehrsson et al. disclose the claimed invention, expect for a mixture of analytes being screened, and the signal output representing the overall properties of the mixture.

Bogart teaches a mixture of analytes being screened, and the signal output representing the overall properties of the mixture (see col. 33, lines 17-24).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rose-Pehrsson et al.'s method to include a mixture of analytes being screened, and the signal output representing the overall properties of the mixture, as taught by Bogart, in order to qualitatively determine whether or not the extract contains the target analytes of interest.

14. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rose-Pehrsson et al. in view of U. S. Patent No. 5,406,829 to Ravel et al.

As noted above, Rose-Pehrsson et al. disclose the claimed invention, expect for using the information in a feedback loop to control the process.

Ravel et al. teach using the information in a feedback loop to control the process (see col. 2, lines 14-16).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rose-Pehrsson et al.'s method to include using the information in a feedback loop to control the process, as taught by Schairer, in order that the process can be controlled to maintain a constant status.

15. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rose-Pehrsson et al. in view of U. S. Patent No. U. S. Patent No. 5,736,782 to Schairer.

As noted above, with respect to claims 18 and 19, Rose-Pehrsson et al. disclose the claimed invention, expect for the circuit board being in a soldering operation.

Schairer teaches the circuit board being in a soldering operation (see col. 3, lines 11-19).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Rose-Pehrsson et al.'s method to include the circuit board being in a soldering operation, as taught by Schairer, in order to provide an electrical conduction path through a mechanical interface from the sensors to external devices which detect and process the electrical signals generated by the sensors.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Goodman et al. disclose techniques being used to detect and identify analytes.

Lewis et al. disclose chemical sensors for detecting analytes in fluids comprising first and

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second conductive elements (e.g., electrical leads) electrically coupled to and separated by a chemically sensitive resistor which provides an electrical path between the conductive elements.

Ratner et al. disclose a diagnostic sensor device comprising a plurality of sensor probes, a detection device, and a computer for analyzing the signals generated from each sensor probe by multivariate statistical analysis.

Wilding et al. disclose a mesoscale sample preparation device capable of providing microvolume test samples, separated into a cell-enriched fraction and a fraction of reduced cell content, for performing various analyses, such as binding assays, determinations involving polynucleotide amplification and the like.

Eersole et al. disclose a method for detecting an analyte in a liquid sample, the method using light energy propagational properties of an analyte-responsive polymer.

Walt et al. disclose an optical detection and identification system and providing an optic sensor, an optic sensing apparatus and methodology for detecting and evaluating one or more analytes or ligands of interest, either alone or in admixture.

Contact Information

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carol S. Tsai whose telephone number is (703) 305-0851. The examiner can normally be reached on Monday-Friday from 7:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (703) 308-1677. The fax number for TC 2800 is (703) 308-7382. Any inquiry of a


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general nature or relating to the status of this application or proceeding should be directed to the TC 2800 receptionist whose telephone number is (703) 308-1782.

In order to reduce pendency and avoid potential delays, Group 2800 is encouraging FAXing of responses to Office actions directly into the Group at (703) 308-7382. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2800 will be promptly forwarded to the examiner.

Carol S. Tsai

03/19/02


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